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March 23, 2000

TO: Internal file

THRU: Pete Hess, Team Lead Spm for PHH

FROM: Michael Suflita, Senior Reclamation Hydrologist MS

RE: Highwalls As-Builts, West Ridge Resources, Inc., West Ridge Mine, ACT/007/041-00B.

SUMMARY

As a result of a Division request, the Operator submitted As-Built drawings of the minesite area. The purpose was to compare the As-Built conditions to those that were approved in the Mining and Reclamation Plan (MRP). This Technical Memo is a review of primarily the Hydrologic aspects of the submittal and is not all-inclusive. There are deficiencies resulting from the review.

OPERATION PLAN

HYDROLOGIC INFORMATION

Regulatory Reference: 30 CFR Sec. 773.17, 774.13, 784.14, 784.16, 784.29, 817.41, 817.42, 817.43, 817.45, 817.49, 817.56, 817.57; R645-300-140, -300-141, -300-142, -300-143, -300-144, -300-145, -300-146, -300-147, -300-147, -300-148, -301-512, -301-514, -301-521, -301-531, -301-532, -301-533, -301-536, -301-542, -301-720, -301-731, -301-732, -301-733, -301-742, -301-743, -301-750, -301-761, -301-764.

Analysis:

Sedimentation Ponds

The submittal consists of two maps, Map 5-5 Surface Facility Map (As Constructed) and Map 7-4 Sediment Pond - Plan & Profile (As Constructed). Also included was a Sediment Pond Inspection Report, and Table 16A, Sediment Pond As-Constructed Volumes. All of the submittals were stamped and certified by a Registered Professional Engineer. The original intent of the submittal was to compare the constructed highwalls to the one approved in the MRP. Hydrologicly there are really no changes at the highwalls. The approved highwalls was about 40 feet high while the constructed one is about 90 feet tall. Additionally, there is a safety bench at

the base of the highwalls that was not in the original submittal. The drainage area remains the same and no added runoff would result.

Comparison of the MRP Map 5-5 and the new Map 5-5 shows several changes. The topsoil storage piles are not in the same location and appear to be not the same size or configuration. In addition, the several pads on the minesite are located slightly differently than originally shown in the approved MRP. Presumably the construction field conditions necessitated these changes. Also, the road from the upper right pad area up to the "nose" is not in the same location and the road, as shown on the map, was constructed outside the permit boundary. There is no indication of any drainage ditches or culverts on the new Map 5-5. These are needed to assure the construction did not significantly alter the approved drainage patterns. All of the above-noted changes will require comparison of the affected drainage ditches and culverts. The Operator will need to provide an As-Built drawing showing the constructed drainage ditches and culverts. An As-Built version of Map 7-2, Mine Site Drainage Map, including the constructed topographic features, would be appropriate.

Comparison of the MRP Map 7-4 and the new Map 7-4 showed a few changes. Disturbed area culverts DC-12 and DC-13 are located about 45 feet to the west of the original design. This has no impact on their function. The roads are in basically the same location. Both cells of the sediment pond are very close to original design. The cells do not cut into the hillside and are positioned right next to one-another as originally approved. ASCA-Z, the drainage basin below the ponds, is the same as approved.

The disturbed area boundaries are very different on the old and new Map 7-4. In addition, the disturbed area boundary on the MRP map 7-4 is different from the newly submitted Map 5-5. Since the disturbed area boundary will have to be changed due to the construction of the road outside the originally approved boundary, ALL maps in the MRP will need to be changed to reflect the revised boundary.

Review of the new Table 16A and the MRP Table 17, Sediment Pond Stage-Volume Data, showed some differences also. The MRP table shows the Crest Elevations for both cells (A & B), while there are no corresponding As-Built elevations. The new Table 16A needs to have included the crest elevations for both ponds. This is necessary to assure that there is adequate freeboard from the emergency spillway to the top of the embankment. Also, a note at the bottom of Table 16A indicates the constructed pond has a greater capacity than the designed pond. The difference is an increase of 0.479 Acre-Feet, based on the volume of the ponds at the Primary Spillway elevation. Comparison of the old and new pond volumes confirms this figure. Based on the Emergency Spillway elevation, the note says there is an increase of 0.508 Acre-Feet. This is a little confusing since the MRP Table 17, and text, do not contain any pond volumes at the Emergency Spillway elevation. However, both the old and new Map 7-4 do show pond volumes at the Emergency Spillway elevation, and the difference is 0.510 Acre-Feet.

The Map 7-4, Sediment Pond - Plan & Profile (As-Constructed), does not contain any profiles. These will definitely need to be provided. The same is true for the cross sections for the whole minesite. The cross sections are necessary to accurately calculate Reclamation

volumes and to accurately depict the constructed configuration of the minesite.

The Sediment Pond Inspection Report indicates the pond was constructed in a safe, stable, and adequate manner. It recommends the sediment clean out marker be installed.

Both the As-Built drawings show the man-made features including buildings, power lines, buried culverts, and roads as they exist now after construction.

Findings:

In its present form the submittal does not meet minimum regulatory requirements. Accordingly, the Permittee must address those deficiencies as found within this Technical Memo and provide the following, prior to approval, in accordance with the requirements of:

R645-301-721, -733, and -520, provide the following, as detailed above:

- An As-Built drawing showing the topography and the constructed drainage ditches and culverts of the minesite,
- A complete set of MRP drawings showing the same disturbed area boundaries as revised by the construction,
- A revised Table 16A showing crest elevations for both ponds,
- Profile cross-sections for the sediment pond (Map 7-4) and for the rest of the minesite.

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